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IMPROVING FOOD AND BEVERAGE BUSINESS PROFIT USING CAPACITY PLANNING: STUDY CASE OF SARI PANDAN

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Abstract. Capacity planning can help a company to reach the objective. In Sari Pandan (food and beverage company) case, the company could not reach profit target (Rp 20.000.000/month), because company's capacity could not fill the potential demand in market. To reach the target, the company will construct capacity plan. Capacity plan requires data about company's capacity and demand estimation. Company capacity data was collected through production activity observation. Demand estimation requires population data and interview with target market in potential selling location of Sari Pandan, for population the data was secondary data from *Disdukcapil Cimahi and Bandung Barat* and interview data was used for market survey method. The researcher was conducting interview with food and beverage business owner for benchmarking about marketing and sales strategy. Based on analysis and calculation result from graphical method, with profit Rp 4.000/cup, Sari Pandan must sell 5.000 cups/month or 167 cups/day to reach the profit target. Build upon company policy, Sari Pandan must add capacity 4 times from current capacity. Food and beverage company have to knowing the capacity and demand well to achieve company's objective.

Keywords: *Capacity Analysis, Capacity Planning, Demand Estimation, Food and Beverage Business, Graphical Method*

Introduction

Traditional foods exist as an identity of the community (Costa, Vasilopoulou, Trichopoulou, & Finglas, 2010). Presently traditional food has been influenced by innovation aspect to increasing value of the product (Ivanova, Terziyska, & Trifonova, 2014). Sari Pandan, as food and beverage company that sell Indonesian traditional foods, has a problem to reach the company profit target that caused by company's capacity. Appropriate capacity strategy can lead the organization into great competitive advantage (Heizer, Render, & Munson, 2016). Therefore, the researcher will be determining company's capacity strategy to help Sari Pandan reach company profit target.

Researcher will be using graphical method to determining company capacity strategy option. Graphical method requires company's current capacity data and demand estimation (Heizer, Render, & Munson, 2016). Beside of that, graphical method analysis has to pay attention to company's policy. Demand estimation lead the company to determine best capacity strategy that most effective and efficient.

Methods

This section consists of approaches taken by the author, whether qualitative or quantitative approach. This section also includes a sample description (respondent/case profile), sampling method, sampling size, error level, data collection method, variable operationalization, and analysis method. This research uses qualitative and quantitative approach. Qualitative research was utilized for demand estimation (market survey) and benchmarking Meanwhile, quantitative data was utilized for demand estimation (expected value) and graphical method.

Data Collection

This research is using primary and secondary data. Primary data consists of interview and observation. Meanwhile secondary data consists of population data and sales history of Sari Pandan.

1. Interview (Market Survey)

To get insight about market preference, this research conduct market survey technique which is qualitative method. The respondents are Sari Pandan's target market in Ngamprah district and Central Cimahi district. In selecting sample, non-probability sampling is most suitable method for market survey (Saunders, Lewis, & Thornhill, 2007). Since this research is exploratory, the technique that be selected is Self-selecting technique. The samples are Sari Pandan target market in Central Cimahi and Ngamprah. Interview guideline can be seen below (Table 1):

Table 1: Interview with Target Market Guidelines

Topic	Sub Topic	Question Type	Measurement Instrument
Introduction	Introduction and research purpose	-	Q01
Product Quality	Knowing target market's commenter about Sari Pandan's product taste	Open Question	Q02
Willingness to Buy	Target market's willingness to pay (product price)	Closed Question	Q03
	Target market's willingness to visit the physical store (distance)	Closed Question	Q04
	Target market's willingness to buy-per-month (buying quantity in a month)	Closed Question	Q05
Business Development	Target market's expectation about product	Probing Question	Q06
	Target market's expectation about sweet porridge seller	Probing Question	Q07

2. Interview (Benchmarking)

To reach the Sari Pandan target (20 million profit per month) the company should implement several aspects that support the business. After calculate demand estimation of Sari Pandan, the company must put an effort in marketing and sales to reach the demand estimation. Therefore, this research conducts an interview with practitioners (business owner) with business that has profit more than 20 million rupiah. The interview is discussing about marketing and sales strategy to reach profit more than 20 million rupiah. The interview guideline can be seen below (Table 2):

Table 2: Interview with Practitioners Guidline

Topic	Sub Topic	Measurement Instrument
Introduction	Introduction and research purpose	Q01
Company Profile	Company industry	Q02
	Company product	Q03
	Company branches	Q04
	Company employee	Q05
	Company profit/month	Q06
Marketing Strategy	Current marketing strategy	Q07
	Future marketing strategy plan	Q08

3. Observation (Capacity Analysis)

Before match the capacity with the demand, the researcher should know current capacity first. To get data about current capacity of Sari Pandan, this research will be conducting capacity analysis technique. From capacity analysis, researcher can find out output from production process from three ways point of view (design capacity, effective capacity, and actual output), utilization, production time, and cost.

4. Population Data

This research uses population data in Sari Pandan selling location and potential selling location. The selling location and potential selling location of Sari Pandan are North Cimahi, Central Cimahi, and Ngamprah. Population data will be used to determine demand estimation. The sets of data are available in *Dinas Kependudukan dan Catatan Sipil Kota* Cimahi and *Kabupaten* Bandung Barat.

5. Set Data of Sari Pandan Sales

As listed on the research scope and limitation, this research will be using data set from September 2017 – December 2017. Because of that, the researcher will examine and collect historical sales data of Sari Pandan on September 2017 – December 2017. Those sets of data are available at Sari Pandan internal document data.

Data Analysis

1. Coding (Inductive Analysis)

This research implement coding for analyze interview result with Sari Pandan target market and practitioners. Those both items have different objective. Objective of coding interview with Sari Pandan target market is for support demand estimation validation. Meanwhile, objective of coding interview with practitioners is for benchmarking in marketing and sales strategy. Table analysis template can be seen below (Table 3):

Table 3: Coding Template

Raw Material	Preliminary Code	Final Code
Interview transcript.	Extraction from interview transcript.	Extraction that has been processed.

2. Expected Value (Demand Estimation)

To get exact result about demand forecast of Sari Pandan's product, this research will be using secondary data to support primary data which is researched by qualitative analysis. The formulation is constructed in accordance with availability source of data (Weirs, 2010).

$$E(x) = x \times P(x)$$ ---------- (Equation 1)

Following the equation, the notations are stand for:

- $E(x)$ = Expected value for demand
- x = Market population
- $P(x)$ = Probability of market population that buy Sari Pandan product

But, before determine the expected value, first step that should be conducted is determine the average sales per day of Sari Pandan and the baseline (probability). Equation of average sales number is:

$$\frac{\sum(x_i/y_i)}{z} = Average\ sales\ number$$ ---------- (Equation 2)

Following the equation, the notations are stand for:

- x = Monthly sales number

- y = selling day number
- z = selling quantity in month

Meanwhile for the baseline (probability) the equation is:

$$(a/b) \times 100\% = Baseline$$ ---------- (Equation 3)

Following the equation, the notations are stand for:
- a = Average sales per day of Sari Pandan
- b = Total target market Sari Pandan in North Cimahi

3. Aggregate Planning

a. Production Capacity

Production capacity is analyzed using Microsoft Excel and Igrafx software. Data that will be shown are production output, utilization, cost, and production time.

b. Graphical Method

b1. Determine the estimation demand of Sari Pandan product in each period

Demand estimation is divided into two phases. First phase is focus on opening new booth until reach 5 booths. Meanwhile, for the second phase is focus on growing in strategy management level (especially in marketing segment).

To estimate the demand, this research using a simple equation.

For total demand estimation growth, the equation is:

$$(x_1 + x_1 \times y) + (x_2 + x_2 \times y) = Demand\ Estimation\ Growth$$ ----- (Equation 4)

- x_1: Selling demand in current location
- x_2: Selling demand in new location
- y: Growth percentage that is affected by marketing effort in phase 1

b2. Determine capacity for regular time, overtime, and subcontracting each period

This part is for comparing which process that most effective. Regular time is production process that conducted as company production time policy, overtime is production process that conducted exceeds company production time policy, and subcontracting is production process that conducted by third party. But, for Sari Pandan case, cost that calculated only production time for regular time. Because, based on Sari Pandan policy, the production process is must not more than 3 hours and must conducted in Sari Pandan central kitchen.

b3. Find labor costs, hiring and layoff costs, inventory holding costs, and equipment costs
Cost data will be presented by table. For Sari Pandan case, cost that calculated only labor and equipment.

b4. Consider company policy that may apply in the production process
This point will be explaining about production policy of Sari Pandan.

b5. Develop alternative plans and examine their total costs

This point will be explaining about capacity plan based on demand estimation growth and company production capacity. After construct a capacity plan, researcher calculates equipment and labor cost to implement the strategy.

4. Benchmarking

Researcher will implement benchmarking method that constructed based on AT&T's framework (Mittelstaedt, 1992) and Heizer's framework. Benchmark framework for this research can be seen below.

1. Determine benchmark factor
2. Identify benchmark partner
3. Collect benchmark data
4. Analyse benchmark result
5. Develop implementation plan

Results and Discussion

1. Demand Estimation

Market Survey

Interview has been conducted to Sari Pandan target market in Central Cimahi and Ngamprah. Total respondents are 5 people from Central Cimahi and 5 people from Ngamprah. They were interviewed about their feedback, preference, and expectation of Sari Pandan product and Traditional food and beverage business

For product quality, most respondent said good enough because the sweetness level is plenty and the texture is chewy. But, the product needs minor improvement in creamy level. Meanwhile in willingness to buy analysis result, most of them want to buy Sari Pandan product for at least 2 times per month and for the tolerable distance average is 3.1 km. From those data, the conclusion is people love Sari Pandan product and willing to buy Sari Pandan product with requirement that has been explained.

Demand Estimation Number

First step, researcher was analyzing average sales/day of Sari Pandan product. Data that required is Sari Pandan sales history. average sales of Sari Pandan based on sales data from September 2017 – December 2017 in North Cimahi booth.

- September: 1098 cups/31 days (Add 27, 28, 29, 30 August 2017 and 5 days were off)
- October: 1013 cups/26 days (5 days were off)
- November: 777 cups/24 days (6 days were off)
- December: 893 cups/25 days (6 days were off)

For September, the sales data is added by 4 days selling activity from August. Because in selling activity in August was conducted in end-month. In order to get analyzed,

Average sales/day based on four months' sales data of Sari Pandan:

$$\frac{\sum(x_i/y_i)}{z} = \boldsymbol{Average\ sales\ number}$$

$$\frac{(1098/31)(1013/26)(777/24)(893/25)}{4} = 32{,}06 \approx \mathbf{32\ cups/day}$$

Then the researcher requires target market population data in Sari Pandan current selling location, which is North Cimahi. Based on data from *Disdukcapil Kota Cimahi*, in 2017 Sari Pandan target market population are 48.733 people.

$$\left(\frac{\boldsymbol{a}}{\boldsymbol{b}}\right) \times \mathbf{100}\% = \boldsymbol{Baseline}$$

$$\left(\frac{32}{48733}\right) \times 100\% = \mathbf{0.0657}\%$$

Since, this probability will be implemented in another selling location. Researcher have to develop justification to make sure this probability can be implemented.

Table 4: Similarity Comparison from each District

Factor	North Cimahi	Central Cimahi	Ngamprah
Selling location	*Pasar Pagi* in housing area	*Pasar Pagi* in housing area	*Pasar Pagi* in housing area
Upah Minimum Kota/Kabupaten	Rp 2.678.028,45	Rp 2.678.028,45	Rp 2.683.277,45

Sari Pandan will be choosing *pasar pagi* in housing area. *Pasar pagi* in housing area is a traditional market that appear only in morning time and there is no permanent building. Because, most *pasar pagi* in housing area using field or public road to hold the event.

Every *pasar pagi* that be held and sustain, it is mean there are a buyer that support the seller to keep doing selling activity. Based on Sari Pandan owner experience in North Cimahi booth, in *pasar pagi* food and beverage product is one of most wanted product for breakfast. Therefore, the researcher is assuming in every *pasar pagi* there will be demand for Sari Pandan product (sweet porridge).

UMK (*upah minimum kota/kabupaten*) is laborers right to get paid minimum in *kota/kabupaten* (Peraturan Pemerintah Republik Indonesia Nomer 78 Tahun 2015 tentang Pengupahan, 2015). UMK is must be higher than UMR (*upah minimum regional/provinsi*). Based on Peraturan Pemerintah Republik Indonesia Nomer 78 Tahun 2015 pasal 43, determination of UMK is considered by the need for decent living with pay attention to productivity and economy growth. Therefore, if a district has similar UMK, it is mean their economy situation is similar. Based on (Keputusan Gubernur Jawa Barat Nomor: 561/Kep.1065-Yanbangsos/2017), UMK in Cimahi (North Cimahi and Central Cimahi included) is Rp 2.678.028,45 and West Bandung (Ngamprah) is Rp 2.683.277,45. UMK difference of each area is only 5.249 rupiah. So, the economy situation is similar.

Beside of those two factors, result data from the interview is showing willingness to buy, respondent in Central Cimahi is 100% and Ngamprah is 75%. Therefore, population in those area have high probability to buy Sari Pandan product.

Based on those justification, the probability of each district will be the same, 0,0657%. Although based on interview result willingness to buy in Central Cimahi is 100% and Ngamprah is 75%, researcher use 0.0657% as the baseline because more scientific.

After determine probability, the next step is estimating demand in potential selling location of Sari Pandan. Based on (Dinas Kependudukan dan Pencatatan Sipil Kota Cimahi, 2017) total population of Sari Pandan target market are 47.483 people. Meanwhile, in Ngamprah, based on (Dinas Kependudukan dan Pencatatan Sipil Kabupaten Bandung Barat, 2017), total population of Sari Pandan target market are 47.644 people.

This research implements expected value approach to finding demand estimation. Equation that will be used for finding out the demand is:

$$E(x) = x \times P(x)$$

Following the equation, the notation is stands for:

- $E(x)$ = Expected value for total demand estimation
- x = Total target market population (Central Cimahi District, North Cimahi, and Ngamprah District)
- $P(x)$ = Probability market share gained from total target market population (The Baseline)

Therefore, demand estimation in each potential selling locations are:

- $North\ Cimahi = 48.733 \times 0.0657 = 32.01 \approx 32\ people/day$
- $Central\ Cimahi = 47.483 \times 0.0657 = 31.19 \approx 31\ people/day$
- $Ngamprah = 47.644 \times 0.0657 = 31.30 \approx 31\ people/day$

Aggregate Planning

First step, researcher will be determining the company current capacity first. The data were observed and analysed using iGrafx software and Microsoft Excel.

Table 5 is showing production output, time, and equipment cost of each process. The data is analysis result from Igrafx and Microsoft Excel.

Table 5: Output from Production Process of Sari Pandan

Factor	Bubur Sumsum	Bubur Jagung	Bubur Candil	Saus Santan	Saus Gula Merah	General Process
Output	3 kg (20 cups)	4,1 kg (15 cups)	4,4 kg (20 cups)	0,83 kg (35 sheet)	1 kg (40 sheets)	**Total Ouput
Time	24,08 minutes	69,30 minutes	2,67 hours	26.92 minutes	20,08 Minutes	3,02 hours
Equipment Cost	Rp 1.511	Rp 4.989	Rp 6.289	Rp 1.589	Rp 1.224	*Rp 5.767

*Labor cost that calculated

From table 5, Sari Pandan production output is 55 cups/day. *Saus Santan* and *Saus Gula Merah* are complement for *Bubur Sumsum* and *Bubur Candil*. Total Production time is 3,02 hours, which is exceeds a little from company production time policy (3 hours).

Table 6 is showing production equipment and labor utilization. Utilization is percentage usage of equipment or labor in the production process. If utilization percentage is showing 100% rate, it is mean the equipment or labor does not have idle (rest) time. In 8-hour manufacturing process 100% utilization rate is not good, because it will breakdown the machine or the labor. Meanwhile low rate utilization is not good as well because the machine not working effectively. But, in Sari Pandan case, the manufacturing process time is only 3 hour and equipment cost is low. Therefore, high percentage of utilization is not a problem.

Table 6: Production Equipment Utilization of Sari Pandan Production Process

Equipment	Bubur Sumsum	Bubur Jagung	Bubur Candil	Saus Santan	Saus Gula Merah
Dishwasher (Time)		10,22% (7,08 minutes)	1,56% (0,04 hours)		
Stove (Time)	64,36% (15,50 minutes)	69,99% (48,50 minutes)	40,02% (1,07 hours)	60,56% (16,30 minutes)	62,49% (12,55 minutes)
Blender (Time)		2,45% (1,70 minutes)			
Labor (Time)	100% (24,08 minutes)	100% (69,30 minutes)	100% (2,67 hours)	100% (26.92 minutes)	100% (20,08 minutes)

*Equipment that is not utilized in the process is marked by red block

Table 7: Labor Utilization of Sari Pandan Production Process

Labor	General Process
Ibu Rita (Time)	94.49% (2,86 hours)
Ibu Lilis (Time)	69,15% (2,09 hours)

After knowing the current capacity, the next step is graphical method.

1. Total Demand Estimation

The table is showing demand estimation of Sari Pandan for the 5 months. The estimation is showing growth from January until May. To estimate growth demand, this calculation is using equation 4. Meanwhile, for estimation growth percentage is based on benchmarking result (3,5%).

Table 8: Demand Estimation Growth Estimation

Month	Demand/Day	Production Days	Demand/Month
January	65	31	2.015
February	99	28	2.772
March	135	31	4.185
April	172	30	5.160
May	210	31	6.510

The table is showing information demand/day, production day, and demand/month. Demand/month is required because number days in every month is not all the same.

2. Determine Capacity for regular time, overtime, and subcontracting each period.

Capacity for regular time can be found in chapter 5.3.1. But, this research is not computing for overtime and subcontracting capacity. Because, based on company policy, all production process would be handled by Sari Pandan and maximum production time is 3 hours. Therefore, it is not necessary to determine the overtime and subcontracting for production process of Sari Pandan.

3. Find labor and equipment costs that involve in production process

In this chapter the researcher will be showing production equipment and cost in each item for Sari Pandan production process. Currently, Sari Pandan has 2 labors in production process, 2 stoves, 1 blender, and 1 dishwasher.

Table 9 is showing labor and equipment that involve in the production process. For the labor we determine Rp 20.000/hour. Meanwhile for the dishwasher is Rp 1.100/hour, blender is Rp 4.600/hour, and stove Rp 5.850. Those three items are equipment that have most high utilization level in the production and high cost.

Table 9: Labor and Equipment Cost-per-Hour

Item	Cost/Hour
Labor	Rp 20.000
Dishwasher	Rp 1.100
Blender	Rp 4.600
Stove	Rp 5.850

4. Consider company policy

There are several company policies that have impact to capacity planning.

1. Production time maximum is 3 hours.
2. All production process is handled by Sari Pandan and conducted in Sari Pandan central kitchen.
3. A Labor cannot do parallel process, but they can produce more than one item in one production time period.
4. Product price will be 8.000 rupiah/cup.
5. Profit margin is assumed for 50%.

5. Develop plan and examine the total costs

The last step is developing capacity plan and examining the total cost. Capacity plan is developed based on demand estimation, current capacity, and company policy. After being analyzed and calculated, the demand estimation is growing every month. To match with the demand, the capacity should be improved as well. Therefore, this plan will be using long-term capacity plan strategy options (incremental change).

The incremental change strategy options are mixed, below and exceed the demand estimation. The capacity will be below the demand expectation in January, March, and April. Meanwhile, the capacity will be exceeding the demand expectation in February and May the demand. Actually, main strategy is below the demand expectation in order to reduce loss risk. Meanwhile, exceed demand strategy is conducted because demand expectation and capacity output is too far.

The capacity is improved in February, April, and May. The enhancement strategy is adding the capacity in each growth month (February, April, and May) by whole-set first capacity (2 labors, 2 stoves, 1 blender, and 1 dishwasher). Sari Pandan additional requirement can be seen below:

Table 10: Additional Production Equipment Requirement

Month	Additional				Total			
	L	S	B	D	L	S	B	D
January	2	2	1	1	4	4	2	2
April	2	2	1	1	6	6	3	3
May	2	2	1	1	8	8	4	4

L: Labor, S: Stove, B: Blender, D: Dishwasher

Therefore, Sari Pandan requires 8 labors, 8 stoves. 4 blenders, and 4 dishwashers to match the capacity with the target profit.

Meanwhile, for the strategy plan can be seen on table 11:

Table 11: Strategy Planning

Month	Demand Estimation	Capacity Output Plan	Current Capacity
January	65	55	55
February	99	110	55
March	135	110	55
April	172	165	55
May	210	220	55

If look to demand expectation, target profit will be reached in April. But, in the capacity output side, target profit will be reached in May. Because, it is too risky set capacity output 220 cups/day directly in April. The gap between demand expectation and capacity output is too high. Because of that, the capacity will be reached target profit in May.

Current capacity cost of Sari Pandan is 72.763 rupiah per one production period (3 hours). Meanwhile to reach the demand, in May, the capacity cost will be 462.531 rupiah-per-one production period. For total cost expenses for production process equipment and labor per one production process period can be seen below.

Table 12: Capacity Planning Improvement Cost

Month	Equipment Cost	Labor Cost	Total Cost
January	15.602	57.161	72.763
February	31.204	171.483	202.687
March	31.204	171.483	202.687
April	46.802	285.805	332.607
May	62.404	400.127	462.531

*All cost in rupiah currency

To reach 20.000.000 rupiah profit/month, Sari Pandan must sell the product 5.000 cups/month or 167 cups/day. Based on demand estimation calculation result, the target can be reached in April. Because in April the demand is 172 cups/day or 5.160 cups/month. But, actually the target is reached in May. Because, based on company policy for increase the capacity, the company must be added whole-set (2 labors, 2 stoves, 1 blender, and 1 dishwasher) production process requirement. Therefore, to minimize the risk, capacity will be reaching the target in May. Because in May the gap between demand expectation and capacity output is not too far (only 10 cups). Therefore, the risk will be not high.

Benchmarking

1. **Determine Benchmark Factor**

This research use benchmarking method to construct strategy plan for the marketing to reach 20 million profit/month. Therefore, the research needs all factor that has relation with marketing strategy.

2. **Identify Benchmark Partners**

To make sure benchmark process is working well. The research must select right benchmark partners, which is business owner that has food and beverage business with profit more than 20 million rupiah and has been implementing marketing strategy

After doing preliminary research, researcher got right benchmark partners. The benchmark partners that was selected are Taufik (owner of Ayam Geprek Ganyang). Taufik has food and beverage business

that already make profit more than 20 million/month. Detail about the owner and the business can be seen below.

Table 13: Owner and Business Profile

Name	**Taufik Aditya**
Company	Ayam Geprek Ganyang
Industry	Food and Beverage
Branch	2 branches
Profit	20 – 30 million rupiah/month

3. Collect Benchmark Data

Researcher is collecting benchmark data using interview (qualitative) method, the specific method is grounded theory. Using grounded theory, researcher can develop strategy based on interview result. Benchmark data result can be seen in chapter Appendix D.

4. Analyze Benchmark Result

Since collecting data method that be selected is grounded theory, benchmark data will be analyzed using open coding. Open coding result can be seen in chapter Appendix E. To ease the reader understanding the benchmark result, the final benchmark analysis result can be seen below (table 14).

Table 14: Benchmark Result

Benchmarking Result	
Company	Ayam Geprek Ganyang
Marketing media/tools	Marketing Mix (Increase sales 3,5%)
How	• Analyze our strong point from 4p (product, place, promotion, and product) • Strengthen the potential strong point from the 4p to gain customer. • Ayam Geprek Ganyang strong point is place and price. • Add word-of-mouth and social media for promotion aspect • But, Ayam Geprek Ganyang owner said every business has own marketing-mix strong point.

Taufik said, with those set marketing strategy, the demand or sales is increase 3,5% month. Therefore, every month the sales will be increase 3,5% in previous selling location and new selling location.

Those are the strongest marketing strategy point that researcher got from interview result with food and beverage owner that have profit more than 20 million rupiah/month. Sari Pandan will adapt the marketing strategy to reach and exceed the target profit.

5. Develop Implementation Plan

As explained capacity strategy, the implementation is divided into each month, start from January until May. Start from create social media and fill it with the picture and information about the company, strengthen price and place aspect from marketing mix, boost marketing via social media, build the

communication with the customer, using buzzer and photographer service, and find out new marketing mix strategy for the company. The detail can be seen below.

Table 15: Marketing Strategy Implementation Plan

Month	Marketing Strategy
January	• Create social media • Fill by product photos and company information • Strengthen price aspect from the marketing mix by setting price that below product value • Strengthen place aspect from the marketing mix by designing the store/booth that deliver tasty and clean value
February	• Boost marketing via social media by posting a post about product promo (e.g. buy 1 get 1) • Talk to several customer to get feedback and their need about the product (if any)
March	• List potential buzzer that fit with Sari Pandan product • Choose and contact three most reputable buzzer that fit with our product • Analyze the result • If good, use their service again
April	• List food photographer service provider in Bandung and Cimahi area • Choose photographer with good result and reasonable price • Analyze the result • If good, offer long-term contract
May	• Do deeper research about another marketing mix potential in Sari Pandan • Choose the most potential and give big impact • Construct the strategy to implement the marketing mix

Conclusions

Data that collected have been analyzed by the researcher. Data analysis result is needed by the company to construct strategy plan to reach company profit target.

Demand Expectation in Potential Selling Location

Sari Pandan has 2 new potential selling location and 1 previous selling location that will be opened again. Those location is located in Central Cimahi district, North Cimahi district, and Ngamprah district. Based on interview that conducted to Sari Pandan target market in North Cimahi district and Ngamprah district, the respondents are willing to buy Sari Pandan product with product price around Rp 7.000 – Rp 10.000/cup. Tolerable distance from their house is 3.1 km. For product quality, most respondent said good enough because the sweetness level is plenty and the texture is chewy.

Since this research requires quantitative about demand expectation, the researcher was using expected value method to get quantitative demand expectation result. Based on expected value calculation, expected demand in potential selling location are:

- North Cimahi: 32 cups/day
- Central Cimahi: 31 cups/day
- Ngamprah: 31 cups/day
-

Sari Pandan Current Capacity

The researcher has been analyzing Sari Pandan current capacity using capacity analysis method. Currently, Sari Pandan has 2 people in production process, 2 stoves, 1 blender, and 1 dishwasher. With those production equipment and labor, Sari Pandan can produce:

- Bubur Jagung Manis: 15 cups (69,7 minutes)
- Bubur Sumsum: 20 cups (24,08 minutes)
- Candil: 20 cups (2,67 hours)
- Saus Santan: 35 sheets (Candil complementer) (26,92 minutes)
- Saus Gula Merah: 40 sheets (Bubur sumsum complementer) (20,08 minutes)
-

Those production process is conducted in 3,02 hours by 2 labors with parallel process.

Effective strategy to solve the problem and achieve the target of Sari Pandan

Sari Pandan has policy to sell the product for Rp 8.000/cup and profit assumption is 50%, which is Rp 4.000/cup. To reach Rp 20.000.000 profit/month, Sari Pandan must sell the 5.000 cups/month or 167 cups/day. Based on demand estimation growth, that was calculated with graphical method, the target profit is reached in May 2019. The company must increase the capacity into 8 labors, 8 stoves, 4 blenders, and 4 dishwashers from 2 labors, 2 stoves, 1 blender, and 1 dishwasher. Meanwhile for production cost/production period, the company must be expencing for Rp 462.531/production period from Rp 72.763/production period.

Demand estimation growth must be supported marketing and sales strategy. The company can implement marketing mix method that has been implemented by Ayam Geprek Ganyang. Food and Beverage company in Bandung with profit more than Rp 20.000.000/month.

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